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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/648,362 | 08/27/2003 | Yoshihito Matsuura | 1190-0578P | 3436 |
| 2292 | 7590 | 05/03/2005 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH | | | RAABE, CHRISTOPHER M | |
| PO BOX 747 | | | ART UNIT | |
| FALLS CHURCH, VA 22040-0747 | | | PAPER NUMBER | |
| | | | 2879 | |

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,362

Applicant(s)

MATSUURA ET AL.

Examiner

Christopher M. Raabe

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant requires dimensions "Yh" and "Yv" to satisfy "relationships (1) and (2)."

However, the expressions

$$(1) 0.6 \times (N/M) (Yv^2 - Yh^2)^{1/2} / Yh \text{ } 1.2 \times (N/M); \text{ or}$$

$$(2) 1.2 \times (N/M) Yv / (Yh^2 - Yv^2)^{1/2} \text{ } 1.8 \times (N/M)$$

denote quantities, as opposed to relationships, hence rendering the claim indefinite.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinotami et al. (U.S. Patent 4754190), in view of Verhoeven et al. (U.S. Patent 3839002).

With regard to claim 1,

Hinotami et al. disclose a cathode ray tube comprising: a vacuum enclosure including a panel having a substantially rectangular screen on which a horizontal direction and a vertical direction are defined (38 of figs 1,12); a substantially funnel-shaped portion in which a tube axis is defined (12 of fig 11), one end of said funnel-shaped portion in a direction of said tube axis being connected to said panel, a substantially cylindrical neck connected to an opposite end of said funnel-shaped portion (10 of fig 11); and an electron gun mounted in said neck (column 3, lines 36-38); wherein said funnel-shaped portion includes a yoke-mounting portion adjacent to said neck, said yoke-mounting portion having an outer surface for mounting a deflection yoke that deflects an electron beam emitted by said electron gun in directions of said horizontal axis and said vertical axis (column 1, lines 55-58).

Hinotami et al. do not disclose a cathode ray tube wherein a sectional shape of an outer surface of a portion of the funnel-shaped portion adjacent to the neck, cut by a plane perpendicular to said tube axis, varies from a substantially circular shape to a substantially barrel shape having a maximum dimension at least in a direction of a horizontal axis or a vertical axis, as the position shifts from a neck side to a panel side of the portion of the funnel-shaped portion adjacent to the neck.

Verhoeven et al. do disclose a cathode ray tube wherein a sectional shape of an outer surface of a portion of the funnel-shaped portion adjacent to the neck, cut by a plane perpendicular to a tube axis, varies from a substantially circular shape to a substantially barrel shape having a maximum dimension at least in a direction of a horizontal axis or a vertical axis, as the position shifts from a neck side to a panel side of the portion of the funnel-shaped portion adjacent to the neck (figs 1,5,7,10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the shape of the funnel-shaped portion disclosed by Verhoeven et al. into the cathode ray tube of Hinotami et al. in order to better support the deflection yoke by having the shape of the supporting portion more closely match that of the yoke (figs 1,5,7,10 of Verhoeven, and figs 1,5 of Hinotami et al.).

With regard to claim 2,

Hinotami et al. disclose the cathode ray tube.

Hinotami et al. do not disclose a cathode ray tube wherein a sectional shape of an inner surface of said yoke-mounting portion, cut by a plane perpendicular to said tube axis, varies from a substantially circular shape to a substantially barrel shape having a maximum dimension in the same direction as the direction in which said outer surface has its maximum dimension.

As stated in the rejection of claim 1, Verhoeven et al. do disclose the shape of the outer surface of the portion of the funnel-shaped portion adjacent to the neck. Verhoeven et al. also disclose the shape of the inner surface of the portion of the funnel shaped portion being the same as that of the outer surface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the shape of the inner surface of the portion of the funnel-shaped portion adjacent to the neck disclosed by Verhoeven et al. into the cathode ray tube of Hinotami et al. in order to simplify manufacturing by making the funnel-shaped portion a uniform width.

With regard to claim 3,

Hinotami et al. disclose the cathode ray tube.

Hinotami et al. do not disclose a cathode ray tube wherein said substantially barrel shape of the portion of the funnel-shaped portion adjacent to the neck includes two substantially straight sides extending in parallel with each other along said horizontal axis or said vertical axis, and two arc-shaped sides in the form of circular arcs having the center of curvature aligned on said tube axis.

As in the rejection of claim 1, Verhoeven et al. do disclose the barrel shape of the portion of the funnel-shaped portion adjacent to the neck.

Utilizing the reasoning in the rejection of claim 1, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the shape disclosed by Verhoeven et al. into the cathode ray tube of Hinotami et al.

Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 2185138, 2186595, 6633116, and Japanese Patent 2000357474.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Raabe whose telephone number is 571-272-8434. The examiner can normally be reached on m-f 7am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CR


ASHOK PATEL
PRIMARY EXAMINER